

Pesticide Safety *Information* Series N

Worker Health and Safety Branch

N-5

RESPIRATORY PROTECTION In Noncrop Settings

General Information:

This leaflet provides basic information to pesticide users on respiratory protection and helps you to comply with California's respiratory protection regulations (Title 3 California Code of Regulations section 6738).

Regulations require employers to have a written respiratory protection program at the work place. The program must cover selection, fitting, use, inspection, maintenance and cleaning of respirators. Adoption of the content of this Pesticide Safety Information Series (PSIS) leaflet meets the minimum requirements for the written program. Appendix 1 provides a sample written program.

Conditions Requiring Respiratory Protection:

Engineering controls are the best way to control airborne hazards. Examples of engineering controls are enclosure or confinement of the operation generating the hazard, ventilation to keep the airborne concentration below accepted levels, or substitution of less toxic materials. In some situations, the use of engineering controls, such as closed systems may exempt the worker from wearing respiratory protection (PSIS N-3 discusses these exemptions). Often, pesticide use creates a hazardous working environment. If hazardous pesticide concentrations cannot be controlled in other ways, you need to use personal respiratory protection. You may also need respiratory protection in emergency situations where the exposure is relatively brief.

Federal and state laws require pesticide labels to contain safety precautions. The label will include requirements for respiratory protection, if needed. If you are exposed to mist or spray, respiratory protection may be necessary when applying products

with labels that only state "avoid spray." Always read and follow the safety information on the pesticide label.

Your employer must provide required personal respiratory equipment and you must use the equipment provided. The National Institute for Occupational Safety and Health must approve the respiratory equipment for that particular use.

Training:

You must receive training initially and annually in the need, use, sanitary care, and limitations of the respiratory equipment you may have to use.

Selection and Fitting of Respirators:

Proper respirator selection is critical. Pesticide labels are the primary source of information on the type of respiratory protection necessary. With this information, a safety equipment supplier will be able to provide the correct respiratory equipment. When exposed to pesticides that irritate the eyes, nose or throat, wear a full-face respirator to also protect your eyes. If using air-purifying respirators, NIOSH must approve the air-purifying element (filter or cartridge) for use against the specific hazard. For additional help in the selection process, consult one of the sources listed below.



Respirators come in different sizes to accommodate different sized faces. Every respirator wearer must receive training on fitting and testing respiratory equipment. When fitting a respirator, wear the respiratory equipment in normal, uncontaminated air to become accustomed to it. Then wear it in a test atmosphere.

Maintenance and Sanitation:

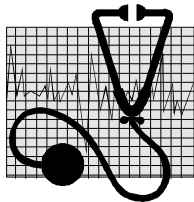
Your employer must repair or replace respiratory equipment as necessary due to wear and deterioration. A trained person should regularly clean and inspect frequently used respirators. Regular cleaning and inspection prolongs the useful life and assures the wearer that the respirator is working as efficiently as possible. For personal hygiene and communicable disease considerations, do not pass respirators from one individual to another without cleaning and sanitizing. Avoid this situation by assigning a respirator to each wearer.

When not in use, store respirators so the facepiece does not become deformed and is protected from excessive exposure to dust, sunlight, extreme temperatures, moisture or damaging chemicals. Any or all of the above will severely limit the useful life of the respirator. Plastic containers with lids can provide adequate storage for respirators.

Prior to use, inspect respirators maintained for emergency situations, such as canister gas masks and self-contained breathing apparatus (SCBA). If not used within a month, inspect and test this emergency equipment to assure reliable operation when needed. During an inspection, look to ensure cleanliness and that all components are present and operable.

Medical Evaluation:

Breathing through a respirator may require more effort than normal breathing. For some individuals, this effort is extremely difficult for various reasons. If required to wear a respirator, your employer must inform you that some medical limitations may interfere with use of respiratory protection. Some of those medical limitations include high blood pressure, heart disease, lung disease or a perforated ear drum. If you have such a condition, a physician must examine you to determine if you are physically able to perform assigned work while using respiratory equipment. The physician should determine what health and physical conditions are pertinent. Your employer must follow the physician's written recommendation concerning your



capability to wear respiratory equipment. Your employer must keep written evidence on file that you were informed. A record of the physician's evaluation must be on file for each employee who indicates a possible medical limitation before that employee performs any work that requires respiratory protection.

Limitations of Respiratory Equipment:

Respirators have limitations. They cannot adequately protect a person from all contaminants under all conditions. The protection factor measures the protection provided to the wearer and indicates the efficiency of the respirator in reducing airborne contaminants inhaled. In general, if properly fitted and worn, the typical half-face air-purifying respirator provides a protection factor of 10. A full-face air-purifying respirator provides a protection factor of 50.

The cartridges or canisters of air-purifying respirators have a limited capacity to protect against toxic gases and vapors in the air. Theoretically, cartridges and canisters are effective against toxic vapors and gases until their capacity is exhausted; then the vapor or gas passes through the cartridge or canister and into the inside of the respirator. If you detect an odor or taste, or feel eye or throat irritation, leave the hazardous area immediately; go to a safe area that contains uncontaminated air. Then inspect your respirator for any physical failure. You must change the cartridge or canister on the respirator if no physical problems are detected. Because canisters and cartridges have a limited capacity and many pesticides lack warning properties (odor or irritation), DPR regulations require that air-purifying elements be replaced according to the most frequent of the following:

- pesticide labeling directions
- equipment manufacturer's recommendations
- at first indication of odor, taste or irritation
- at the end of each day's work period.

Air-purifying respirators (canister or cartridge) do not provide oxygen to the wearer. Do not use these respirators in situations where oxygen content of the air might be low. In these situations, use equipment capable of providing an independent source of breathing quality air, such as a SCBA or an air-line respirator.

Employees with facial hair cannot work where respiratory protection is required unless provided with a respirator that does not require a face-to-facepiece seal for proper operation.

Respirators only protect from inhalation exposure. In many pesticide use situations, protection from dermal exposure is probably also necessary.

Information Sources:

Additional information is available from several organizations and individuals. The following list provides sources for safety equipment and information:

1. Safety equipment retailers - see local telephone directory yellow pages.
2. Occupational safety and health consultants
3. Department of Pesticide Regulation, Worker Health and Safety Branch, 830 K Street, Sacramento, California 95814, (916) 445-4222.
4. County Agricultural Commissioner - see listing under County Government Offices, Agricultural Commissioner.

5. Cal/OSHA Consultation Service - see listing under State Government Offices, Industrial Relations Department, in local telephone directory.
6. County Health Department
7. Insurance carriers

Exemptions:

Users of antimicrobials (used only as sanitizers, disinfectants or medical sterilants) or pool and spa chemicals are exempt from complying with these provisions, provided you follow applicable sections of Title 8 of the California Code of Regulations. Applicable sections for respiratory protection include sections 3380 through 3385 and 5144.

In addition, these requirements do not apply to employees handling consumer products, if exposure is similar to that of the consumer.

This leaflet assists readers in understanding pesticide regulations. It is not a legal document. The California Code of Regulations, Title 3 is the legal reference for the requirements in this document. The words "must" and "should" used in the text are not the same. The word "must" means the action is required and comes from California regulations. The word "should" means additional handling practices that are recommended to further reduce exposure.

**SAMPLE WRITTEN SITE SPECIFIC OPERATING PROCEDURES
FOR THE SELECTION AND USE OF RESPIRATORS**

RESPIRATORY PROTECTION PROGRAM

Company Name_____

Address_____

Person Responsible for Program_____

I. Selection of Respirators

In the following pesticide-related uses, we require respirator use.

We base our selection of respirators on:

Personnel and selected respirator(s)

Employee

Respirator

_____	_____
_____	_____
_____	_____

Additionally, we have an area(s) or time(s) where emergency respiratory protection is necessary.

For this use, we have selected the following respirator(s).

II. Use of Respirators

The above employees received respiratory protection training. _____(name)_____
conducted the initial training on _____. Attached is a list of more recent training.

On a periodic basis _____(name)_____ conducts a routine inspection of respiratory gear.
Inspect equipment kept for emergency use at least monthly. Keep a record of the most recent inspection
on the respirator or its storage container.

EMPLOYEE STATEMENT OF MEDICAL CONDITION

(Print Employee Name)

In accordance of Section 6738 of the California Code of Regulations, to the best of my knowledge, I have (), have no () medical conditions which would interfere with wearing a respirator while engaged in potential pesticide exposure situations. I understand that heart disease, high blood pressure, lung disease or presence of a perforated ear drum require specific medical evaluation by a physician before safe use of a respirator can be determined.

(Signature of Employee)

(Date)

REPORT OF MEDICAL EVALUATION

In accordance with Section 6738 of the California Code of Regulations, I examined the employee listed above. For the employee named above, there is no current medical contraindication to wearing a respirator while working in potential pesticide exposure environments.

Other Comments: _____

(Printed Physician's Name)

(Physician's Signature)

(Date)